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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In Re Application of

Mark A. Kappel

Serial No: 10/064,146

Group Art Unit: 3729

Filed: 06/14/2002

Examiner: Phan, Thiem

For:

ELECTRICAL CONNECTOR EXTRACTION TOOL

Attorney Docket No: 126063 (GEMS 0163 PUS)

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. § 1.8(a))

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AMENDED BRIEF ON APPEALMail Stop Appeal Brief – Patents
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Sir:

The following Amended Appeal Brief is submitted pursuant to the Notification of Non-Compliant Appeal Brief dated on May 12, 2005, for the above-identified application.

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IX. Conclusion

For the foregoing reasons, Appellant respectfully requests that the Board direct the Examiner in charge of this examination to withdraw the rejections.

Please charge the fee of \$500.00 for filing the Brief in Support of an Appeal to Deposit Account 50-0476. Please credit any overpayment or charge any additional fees required in the filing of this appeal to deposit account 50-0476.

Respectfully submitted,



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From: Kevin G. Mierzwa

Date: June 9, 2005

Our File No.: 126063 (GEMS 0163 PUS)

Your Ref. No.: 10/064,146

Comments: Attached is Amended Appeal Brief in response to the
Notification of Non-Compliant dated 5/12/05.

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Total Pages (incl. Cover sheet): 10

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I. Real Party in Interest

The real party in interest in this matter is the General Electric Company.

II. Related Appeals and Interferences

There are no other known appeals or interferences which will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

III. Status of the Claims

Claims 1-13 stand rejected in the Final Office Action. Claims 14-17 stand withdrawn. A copy of the claims on appeal is attached as an Appendix.

IV. Status of Amendments Filed After Final

There have been no amendments filed subsequent to the final rejection.

V. Summary of the Invention

The present invention is directed to an extraction tool for an electrical connector. In certain devices such as CT machines and MRI machines, access into the devices is often limited. Service technicians must disconnect various connectors in order to service the device. The present invention provides a means for removing a connector. The present application includes other devices for disconnecting circuit boards and the like but are not subject to the present claims. The Examiner sets forth the *Omand* reference which is a device for disconnecting a circuit board rather than a connector. As will be evident below, this is a different function that operates differently and does not include the limitations of the present claim.

With reference to Figs. 9-12 and the description in paragraphs 52-56, Claim 1 recites a tool 140 (para. 52, lines 1-3) for removing a first connector portion 22 having a retraction feature 52 (a better view of the retraction feature alone is set forth in Figure 3). The tool 140 includes a piston assembly 141 (para. 53, lines 1-4) having a sliding channel therethrough. The tool further includes a cross-member 156 (para. 53, lines 7-8) slidably receiving the piston assembly. The cross-member has a slot 162 (para. 53, line 10) therein.

The cross-member 156 has a post head 158 sized to be received within the retraction feature 52. A pin 160 is positioned within the channel and is slidably received within the slot.

Claim 10 is also an independent claim which recites more detail with respect to the piston assembly 141 (para. 53, lines 1-4). Claim 10 recites a piston 142 having a handle 144 (para. 53, lines 2-3) disposed on the first end and a channel 146 disposed on the second end. Claim 10 further recites a grip 152 (para. 53, line 8) having an opening 150 therethrough for slidably receiving the piston 142 and a spring 148 located on the piston 142 between the handle 144 and the grip 152. The spring 148 urges the handle 144 away from the grip 152. A sleeve 154 (para. 53, line 6) is adjacent to the grip 152 for slidably receiving the piston 142. A cross-member 156 (para. 53, line 10) is adjacent to the sleeve 154. The cross-member 156 has a slot 162 therein. The cross-member 156 has a post head 158. The tool further comprises a pin 160 (para. 53, lines 8-11) positioned within the channel 146 and slidably received within the slot 162.

VI. Grounds of Rejection to be Reviewed on Appeal

The following issues are presented in this appeal:

Whether claims 1-5 and 7-9 are anticipated under 35 U.S.C. §102(b) by *Omand* (4,660,281).

Whether claims 6 and 10-13 are unpatentable under 35 U.S.C. §103(a) as being unpatentable over the *Omand* reference

VII. Argument

The Rejection of Claims 1-5 and 7-9

The preamble of Claim 1 sets forth a tool for removing a connector portion having a retraction feature. The Examiner fails to point to a connector that has a retraction feature in the *Omand* reference. The Appellant has provided as Appendix B, the sheet made up by the Examiner in the Advisory Action pointing out various parts of the *Omand* reference with wording from the claims of the present application. The *Omand* reference does not teach or suggest a connector. The *Omand* reference is a tool for extracting a circuit board or a chip from a circuit board. The Examiner fails to set forth a retraction feature on the electronic component or circuit board. The retraction feature is important because the claim recites a cross member having a slot therein wherein the cross member has a post head sized to be received within the retraction feature. The Examiner points to reference numerals 42a and 42b for a post head. Appellant respectfully submits that 42a and 42b are not post heads but rather a support for the springs 55

and 56. Therefore, no teaching or suggestion is provided for a post head sized to be received within the retraction feature. In the Interview conducted on February 28, 2005, with the Examiner and his Primary Supervisor, the Examiner argued that the fingers or leaf springs 24/22 are post heads that are sized to be received within the retraction feature. The Examiner's reasoning was that the post heads 42a and 42b are somehow connected to those and therefore are received within the retraction feature. However, as mentioned above, no retraction feature was ever pointed out. Appellant also believes that no such post heads exist.

Claim 1 also recites a piston assembly having a channel therethrough. These components are 142 and 146, respectively, as best shown in Figure 11 of the present application. The Appellant has chosen broad language for the piston assembly. The common meaning of a piston assembly is one component that slides within another component. A specific example of the piston assembly will be described below with respect to Claim 10. As can be seen, the piston 142 slides with respect to the grip 152 and the cross member 156. In the Final Office Action, the piston assembly is recited as elements 52, 15, 42, 44, 66, and 20. Appellant does not believe that a piston assembly is found in the *Omand* reference. The handles 12 and 14 merely slide up and down upon the thrust rod 15. Appellant respectfully submits therefore that a piston assembly is not found. Claim 1 also recites "a cross member slidably receiving the piston assembly, said cross member having a slot therein, said cross member having a post head sized to be received within said retraction feature." The Examiner points to reference numeral 20 as a cross member. Appellant admits that reference numeral 20 does appear to be a cross member. However, the Examiner has conveniently grouped the cross member 20 into the piston assembly as well. It should be noted that the cross member and the piston assembly are two different devices and that the piston assembly is slidably received within the cross member. It does not make sense to group these two things together. Appellant respectfully submits that the Examiner has done this for his convenience so that he can find a slot and a channel as will be described below.

Claim 1 further recites a pin positioned within the channel and slidably received within the slot. As mentioned above, the cross member has a slot therein. The Examiner points to the holes in the side of the cross member 20 for a slot. A slot is an elongated opening. The openings set forth by the Examiner are merely holes and are not elongated. Therefore, Appellant respectfully submits that these holes do not qualify as slots. The cross member 20 is U-shaped and therefore the Examiner states that there is a channel within the U-shape. Arguably, this U-shaped portion is a channel. However, Claim 1 specifically recites that the channel is located within a piston assembly and not the cross member. As mentioned above,

the Examiner conveniently placed the cross member within the piston assembly so that he could locate the channel therein. Appellant respectfully submits that this is an improper construction by the Examiner.

Referring back to the pins 23 of the *Omand* reference, Appellant respectfully submits that these pins are not positioned within a channel in the piston assembly. Also, the Appellant respectfully submits that the pins are not slidably received within the slot. Once assembled, the pins are used for pivoting the leaf springs and thus they are not slidably received within a slot. That is, no slot exists and the pins do not move within the slot after they are assembled.

Because each and every element of the claims is not found in the *Omand* reference, Appellant respectfully requests the Board to reverse the Examiner's position. More specifically, a piston assembly having a channel is not taught by the Examiner. A post head sized to be received within the retraction feature is also not taught by the Examiner. A cross member having a slot is also not set forth by the Examiner. A pin positioned within the channel of the piston assembly and slidably received within a slot is also not illustrated by the Examiner.

Claims 2-5 and 7-9 are dependent claims and are believed to be allowable for the same reasons set forth above. Claims 2-5 and 7-9 stand or fall with Claim 1.

The Rejection of Claims 6 and 10-13

Claim 6 depends from Claim 1. The *Omand* reference does not teach or suggest the recited elements of Claim 1 as described above. Therefore, Claim 6 is also allowable for the same reasons set forth with respect to Claim 1.

Claim 10 is another independent claim which has further limitations with respect to the piston assembly. That is, a piston assembly is not set forth in Claim 10. Rather, the specific components of the piston assembly are set forth. The deficiencies noted above with respect to Claim 1 with respect to the cross member having a post head and a pin slidably received within the slot are not taught or suggested in the *Omand* reference. Further, the spring as recited is positioned between the handle and the grip. The springs in the *Omand* reference are positioned near the heads within the device. Appellant admits that some type of handle 14/12 exists but respectfully submit that there is no teaching or suggestion for a handle disclosed on a first end and a channel disposed on a second end in the *Omand* reference.

The Examiner points to reference numeral 52 for a grip having an opening therethrough for slidably receiving a piston. The opening is identified as 25a. The Examiner references Figure 5 for this. Appellant respectfully submits the definition of a grip is something onto which you can grip. In this case, the operator of the device can grip the grip portion. The grip is

illustrated as reference numeral 152 in Figs. 9-12. Appellant respectfully submits there is nothing related to a grip about the component 52. It does appear that this device slidably receives the thrust rod. Appellant, however, respectfully submits that the thrust rod is not a piston.

With respect to the sleeve adjacent to the grip for slidably receiving the piston, the Examiner points to 55 and 56 and the post 52 for a sleeve. That is, the Examiner states that a pair of sleeves ... for sliding the post ... would provide the same functionality as the claimed spring on the piston. Appellant respectfully submits that these parts are in different locations and also no sleeve is provided adjacent to a grip for slidably receiving a piston. Appellant therefore respectfully submits that no sleeve adjacent to the grip for slidably receiving the piston is illustrated by the Examiner.

A cross member is positioned adjacent to the sleeve and has a slot therein. The cross member has a post head. This limitation is similar to that of Claim 1 above and is not believed to be shown by the Examiner as described above.

A pin positioned within the channel and slidably received within the slot is also set forth in Claim 10. This is a similar limitation to that of Claim 1 and is believed to be not illustrated or taught or suggested as described above.

Claims 11-13 depend from Claim 1 and are therefore believed to be allowable for the same reasons set forth above with respect to Claim 10.

Appellant respectfully requests the Board to reverse the Examiner's rejections and pass the case forthwith. Appellant believes there are several reasons and several elements that have not been found by the Examiner. Appellant therefore respectfully requests the Board for a reversal of all the rejections.

VIII. Appendix

A copy of each of the claims involved in this appeal, namely Claims 1-13, are set forth and attached as Appendix A. Claims 14-17 that have been withdrawn from the case are set forth for completeness.

A copy of the sheet made up by the Examiner in the Advisory Action pointing out various parts of the *Omand* reference with wording from the claims of the present application is attached as Appendix B.

APPENDIX A

1. A tool for removing a first connector portion having a retraction feature comprising:
 - a piston assembly having a channel therethrough;
 - a cross-member slidably receiving said piston assembly, said cross-member having a slot therein, said cross-member having a post head sized to be received within said retraction feature; and
 - a pin positioned within said channel and slidably received within said slot.
2. A tool as recited in claim 1 wherein said piston assembly comprises a piston having a first end and a second end.
3. A tool as recited in claim 2 wherein said piston assembly has a handle disposed on a first end.
4. A tool as recited in claim 2 wherein said channel is disposed on a second end.
5. A tool as recited in claim 2 wherein said piston assembly comprises a grip having an opening therethrough for slidably receiving said piston therethrough.
6. A tool as recited in claim 5 wherein said piston assembly comprises a spring positioned on said piston between said handle and said grip, said spring urging said handle away from said grip.
7. A tool as recited in claim 1 wherein said post comprises a first post and a second post.
8. A tool as recited in claim 1 wherein said pin has an angular shape.
9. A tool as recited in claim 1 wherein said posts comprise a mounting post and a cylindrical portion.

10. A tool for removing a first connector portion having a retraction feature comprising:

a piston having a handle disposed on a first end and a channel disposed on a second end;

a grip having an opening therethrough for slidably receiving said piston;

a spring positioned on said piston between said handle and said grip, said spring urging said handle away from said grip;

a sleeve adjacent to the grip for slidably receiving the piston;

a cross-member adjacent to said sleeve, said cross-member having a slot therein, said cross-member having a post head; and

a pin positioned within said channel and slidably received within said slot.

11. A tool as recited in claim 10 wherein said post comprises a first post and a second post.

12. A tool as recited in claim 10 wherein said pin has an angular shape.

13. A tool as recited in claim 10 wherein said posts comprise a mounting post and a cylindrical portion.

14. A method of disconnecting a back shell from a connector housing mounted on a circuit board comprising:

engaging a tool into a retraction feature of a back shell;

biasing outwardly a pair of guide arms from a housing with the tool;

disengaging a snap from a snap opening; and

removing the back shell from a connector with the tool in a motion perpendicular to said circuit board.

15. A method as recited in claim 14 wherein the retraction feature is cup shaped.

16. A method as recited in claim 14 wherein engaging said tool comprises engaging a post head of a tool in to the retraction feature.

17. A method as recited in claim 14 wherein biasing outwardly comprises biasing outwardly using an angular pin coupled to said tool.